Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CHEMISTRY **0620/61**

Paper 6 Alternative to Practical **October/November 2016**

MARK SCHEME

Maximum Mark: 40

Published

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Question	Answer	Mark
1(a)	electrodes	**1**
1(b)	bubbles / fizz / effervescence	**1**
1(c)(i)	more hydrogen twice as much hydrogen / half as much oxygen	**1** **1**
1(c)(ii)	water	**1**
1(d)	*lighted splint* no effect / brighter light for oxygen 'pops' for hydrogen **OR** *glowing splint* relights for oxygen no effect for hydrogen	 **1** **1** **1** **1**

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Question	Answer	Mark
2(a)	table of results for Experiment 1 all temperature boxes completed correctly 22, 24, 26, 28, 30, 31, 30, 29, 28	**2**
2(b)	table of results for Experiment 2 initial and other temperature boxes completed correctly 20, 21, 22, 23, 24, 25, 24, 23, 22	**2**
2(c)	all points correctly plotted best-fit smooth line graphs labels	**2** **1** **1**
2(d)	value from graph (27 °C) shown clearly	**1** **1**
2(e)	phenolphthalein / litmus / suitable named indicator	**1**
2(f)	Experiment 1 / solution **N** solution **N** is a stronger acid / has a higher pH	**1** **1**
2(g)	measured results / temperature changes / results would be smaller **OR** larger / double volume needed to reach same temperature changes	**1**
2(h)	polystyrene is an insulator / copper is a (good) conductor	**1**
2(i)	source of error: heat losses / using a measuring cylinder improvement: lag or insulate / use burette	**1** **1**

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Question	Answer	Mark
3(a)	water present / hydrated	**1**
3(b)	no change / colour	**1**
3(c)(i)	white precipitate dissolves	**1** **1** **1**
3(c)(ii)	white precipitate no change	**1** **1**
3(d)	not a halide	**1**
3(e)	(aluminium) sulfate	**1**
3(f)	white (crystals)	**1**

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Question	Answer	Mark
4	**method adding Agri Lime to acid** add weighed amount / known mass of Agri Lime **Q** to a known volume of acid with a named indicator added to the acid until the indicator changes colour note the mass of Agri Lime **Q** added repeat with Agri Lime **R** conclusion, e.g. 'the experiment using the smaller amount of Agri Lime is better' **OR** **method adding acid to Agri Lime** use weighed amount / known mass of Agri Lime **Q** add acid to it gradually / from a burette with a named indicator added to the acid until the indicator changes colour note volume of acid added repeat with Agri Lime **R** conclusion, e.g. 'the experiment using the larger volume of acid is better'	**6**

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